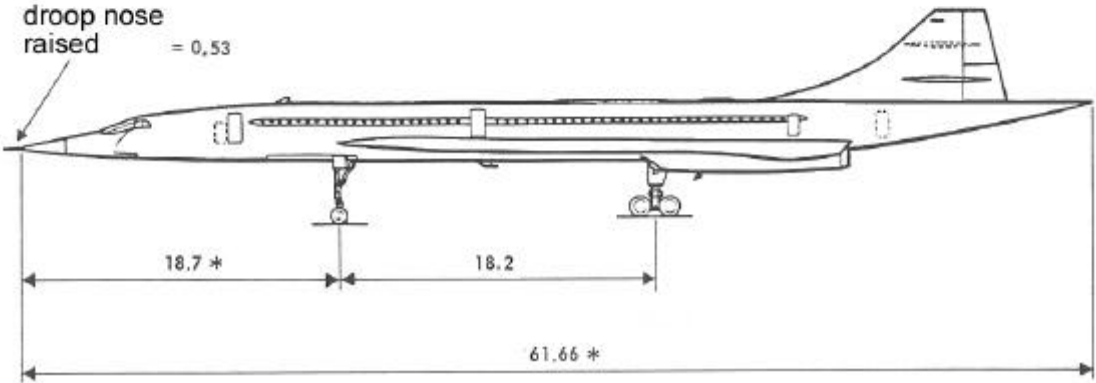
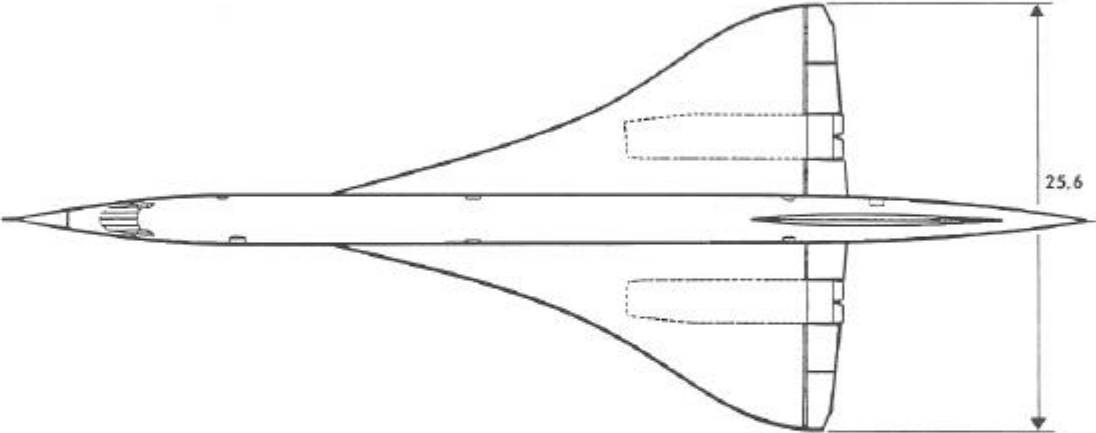
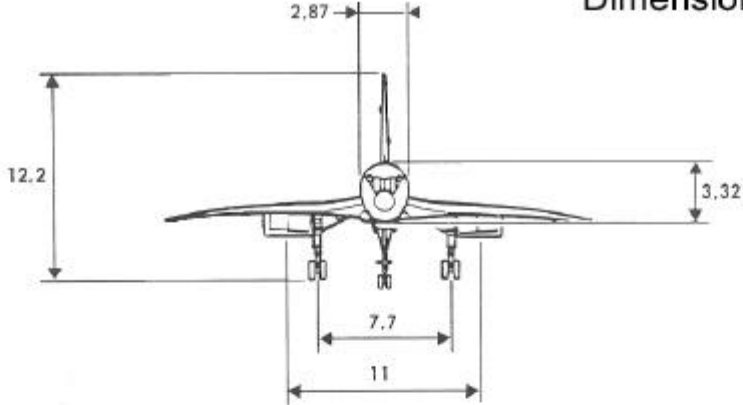


Dimensions in metres



\* Excluding droop nose

# CVR Transcript

## FOREWORD

The following is a transcript of elements which were comprehensible, at the time of the preparation of the present report by the BEA's Engineering Department, from the readout of the cockpit voice recorder (CVR). This transcript contains conversations between crew members, radiotelephonic messages between the crew and Air Traffic Control services and various noises corresponding, for example, to the use of controls or to the alarms.

The reader's attention is drawn to the fact that the recording and transcription of the CVR are only a partial reflection of events and of the atmosphere in the cockpit. Consequently, the utmost care is required in the interpretation of this document.

Communications recorded on the CVR between the ATC and other aircraft are not transcribed. The transcript is complete in the last phase of the recording.

The voices of the crew members are heard through the cockpit area microphone. They are displayed in separate columns for the sake of clarity for the reader. One column is reserved for other voices, noises and alarms also heard via the cockpit area microphone.

## GLOSSARY

UTC Time	Synchronised on the UTC time recorded by the Roissy Charles de Gaulle ATC centre in hours, minutes and seconds, with 25ths of a second shown for the last phase of the flight.
FDR Time	Generated time recorded by the Flight Data Recorder (FDR) in seconds and tenths of a second for the last phase of the recording.
CC	Cabin crew
Ctl	Air Traffic Control centre for the frequency in use
FSL	Fire Service Leader
?	Speaker not identified
⇔	Communication with ATC or with CC in passenger cabin
SV	Synthetic Voice
(*)	Words or groups of words not understood
( )	Words or groups of words in brackets are still doubtful

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
14 h 12 m 24 s		BEGINNING	OF RECORDING				
14 h 39 m 04 s		So the takeoff is ... at maximum takeoff weight one hundred eighty tons one hundred which means four reheats with a minimum failure N2 of ninety eight					
39 m 21 s		Between zero and one hundred knots I stop for any aural warning the tyre flash					
39 m 24 s						(Ctl) Air France forty five ninety contact the Tower on one hundred twenty decimal nine	
39 m 29 s			⇒ One hundred twenty nine forty five ninety good afternoon			Ditto	
39 m 35 s		tyre flash and failure callout from you right					
39 m 38 s		Between one hundred knots and V1 I ignore					

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
39 m 45 s		the gong I stop for an engine fire a tyre flash and the failure callout		yes			
39 m 46 s		after V1 we continue on the SID we just talked about we land back on runway twenty six right					
39 m 51 s		and the quick reference handbook is ready for an overweight landing	***				
39 m 56 s						(Ctl) Air France forty five ninety hello	
39 m 59 s			⇒ Hello threshold twenty six right forty five ninety			Ditto	
14 h 40 m 02 s						(Ctl) (*) forty five ninety line up on runway twenty six	

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
40 m 05 s			⇒ we line up and hold on twenty six right forty five ninety			right Ditto	
40 m 07 s		Ready in the back ?					
40 m 10 s			Let's go				
40 m 11 s		⇒ CC Prepare for takeoff				Ditto	
40 m 16 s		Pre-takeoff check-list					
40 m 19 s		How much fuel have we used ?					
40 m 23 s				We've got eight hundred kilos there			
40 m 24 s		eight hundred kilos?					
40 m 28 s		right	No difference on the second segment				
40 m 31 s		We haven't left yet, have we (*)					

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
40 m 35 s		Err brakes one hundred degrees					
40 m 37 s				Before takeoff Takeoff monitor			
40 m 39 s			armed				
40 m 40 s		armed					
40 m 41 s				The parameters for take...			
40 m 43 s				Takeoff parameters	(CC) cabin ready		
40 m 44 s							
40 m 45 s		Well they're confirmed, nothing has changed					
40 m 47 s				Noise reduction parameters confirmed engine rating light on take-off			
40 m 55 s				N1 limiter four ninety eight eighty idle on high			
14 h 41 m 00 s				Central alarm system			
41 m 01 s						(Ctl) Air France forty five ninety so	
41 m 02 s		recall				I will call you back	

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
41 m 03 s		inhibit				I will call you back as soon as it's free in front	
41 m 04 s			⇒ holding position forty five ninety			Ditto	
41 m 05 s				The transponder			
41 m 08 s				I'm putting it on			
41 m 09 s				Brake temperatures checked one hundred fifty the CG is at fifty .... Four two			
41 m 17 s				Reheat four whites de-icing			
41 m 19 s		okay					
41 m 20 s		Is it hotter on the left or the right there?					
41 m 28 s				It's about the same you know			
41 m 30 s			What's the max ?				
41 m 32 s				There we're at one hundred fifty			
41 m 33 s			Yeah it goes up fast on this				

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
41 m 45 s			taxiway we'll have to watch out				
41 m 47 s		So um depart on the centreline to one hundred	On the centreline level one hundred				
41 m 55 s				CG fifty four			
14 h 42 m 08 s				(*)			
14 h 42 m 17 s 00	97547,5					(Ctl) Air France forty five ninety runway twenty six right wind zero ninety eight knots cleared for takeoff	
42 m 21 s 16	97552,1		⇒ Forty five ninety takeoff twenty six right			Ditto	
42 m 23 s 07	97553,7				Noise of selector		
42 m 24 s 21	97555,3	Is everybody ready					
42 m 25 s 19	97556,2		yes				
42 m 26 s 00	97556,5			yes			
42 m 26 s 15	97557,1	To one hundred V1 one hundred fifty					
42 m 28 s 19	97559,2	(*)					
42 m 30 s 11	97560,9				Noise of selector		Similar to clicking

F-BTSC - 25 July 2000

appendix 2

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Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
42 m 31 s 00	97561,5	top					of thrust levers
42 m 31 s 07	97561,7				Change in background noise		Similar to an increase in the airflow in the air conditioning and an increase in engine speed
42 m 35 s 08	97565,8					(?) go Christian	
42 m 37 s 11	97567,9					Two transmission clicks	
42 m 43 s 08	97573,8			We have four reheats			
42 m 47 s 13	97578				Noise of selector		
42 m 54 s 16	97585,1		one hundred knots				
42 m 55 s 03	97585,6				Noise		
42 m 55 s 13	97586	checked					
42 m 57 s 00	97587,5			Four greens			
14 h 43 m 03 s 17	97594,1		V 1				
43 m 07 s 00	97597,5				Low frequency noise		
43 m 10 s 02	97600,5				Noise		

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
43 m 11 s 00	97601,5				Change in background noise		
43 m 11 s 22	97602,3	(*)					
43 m 13 s 00	97603,5		watch out				
43 m 13 s 09	97603,8					(Ctl) Concorde zero... forty five ninety you have flames (*) you have flames behind you	
43 m 13 s 20	97604,3				End of change in background noise		
43 m 16 s 03	97606,6						(?) (*) right (simultaneous broadcasts on VHF)
43 m 16 s 10	97606,9			(stop)	Noise of selector		
43 m 18 s 20	97609,3		⇒ Roger			Ditto	
43 m 20 s 11	97610,9			Failure eng... failure engine two			
43 m 21 s 08	97611,8				2 selector noises		Similar to TCU passing from main to alternate
43 m 22 s 21	97613,3				Bell		Fire alarm
43 m 23 s 13	97614					(?) it's really burning eh	
43 m 23 s 13	97614				Gong		
43 m 24 s 20	97615,3			Shut down engine two			
43 m 25 s 19	97616,2	Engine fire procedure					

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
43 m 26 s 05	97616,7				Noise of selector		
43 m 26 s 19	97617,2				End of bell		
43 m 27 s 04	97617,6		Watch the airspeed the		Noise of selector		
43 m 27 s 12	97617,9		airspeed the		Gong		
43 m 28 s 05	97618,7		airspeed				
43 m 28 s 17	97619,1					(?) it's really burning and I'm not sure it's coming from the engines	Similar to engine shutdown/fire handle being pulled
43 m 29 s 08	97619,8				Noise of selector		
43 m 30 s 00	97620,5	Gear on retract					
43 m 31 s 15	97622,1					(Ctl) forty five ninety you have strong flames behind you	
43 m 32 s 00	97622,5			The gear			
43 m 32 s 14	97623				Alarm		Similar to toilet smoke detection
43 m 34 s 12	97624,9					Beginning of reception of a Middle Marker	
43 m 34 s 17	97625,1		⇒ yes roger			Ditto	
43 m 35 s 13	97626			The gear no			
43 m 37 s 00	97627,5				Gong		
43 m 37 s 08	97627,8						
43 m 37 s 18	97628,2			gear		(Ctl) so do as you wish you have priority for a return to the field	
43 m 38 s 10	97628,9		no				
43 m 38 s 12	97628,9				2 selector noises		

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
43 m 39 s 00	97629,5	(gear) retract					
43 m 41 s 04	97631,6		⇒ roger			Ditto	
43 m 42 s 07	97632,7				Bell		Fire alarm
43 m 43 s 00	97633,5				Gong		
43 m 44 s 17	97635,1				3 selector noises		
43 m 45 s 16	97636,1		(I'm trying)	I'm firing it			
43 m 46 s 08	97636,8	(are you) shutting down engine two there			End of smoke detection alarm		
43 m 48 s 04	97638,6			I've shut it down			
43 m 49 s 07	97639,7					End of reception of Middle Marker	
43 m 49 s 22	97640,3		The airspeed				
43 m 53 s 00	97643,5				Noise of selector		
43 m 54 s 19	97645,2				End of bell		
43 m 56 s 17	97647,1		The gear isn't retracting				
43 m 58 s 15	97649,1				Bell		Fire alarm
43 m 59 s 03	97649,6				(SV) whoop whoop pull up		GPWS alarm
43 m 59 s 09	97649,8				Gong		

Preliminary transcription 21 August 2000

CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
14 h 44 m 00 s 14	97651				(SV) whoop whoop pull up		GPWS alarm
44 m 00 s 17	97651,1		The airspeed				
44 m 02 s 00	97652,5				(VS) whoop whoop pull up		GPWS alarm
44 m 03 s 00	97653,5					(FSL) De Gaulle tower from fire service leader	
44 m 05 s 04	97655,6					(Ctl) fire service leader err... the Concorde I don't know his intentions get into position near the southern double runway	
44 m 10 s 13	97661				Noise of selector		
44 m 12 s 00	97662,5	(*)					
44 m 13 s 05	97663,7						
44 m 14 s 15	97665,1		Le Bourget Le Bourget			(FSL) De Gaulle tower from fire service leader authorisation to enter twenty six right	
44 m 16 s 12	97666,9	(too late)					
44 m 18 s 02	97668,5					(Ctl) Fire service leader correction the Concorde is returning on	
44 m 19 s 19	97670,2	(no time no)					

Preliminary transcription 21 August 2000

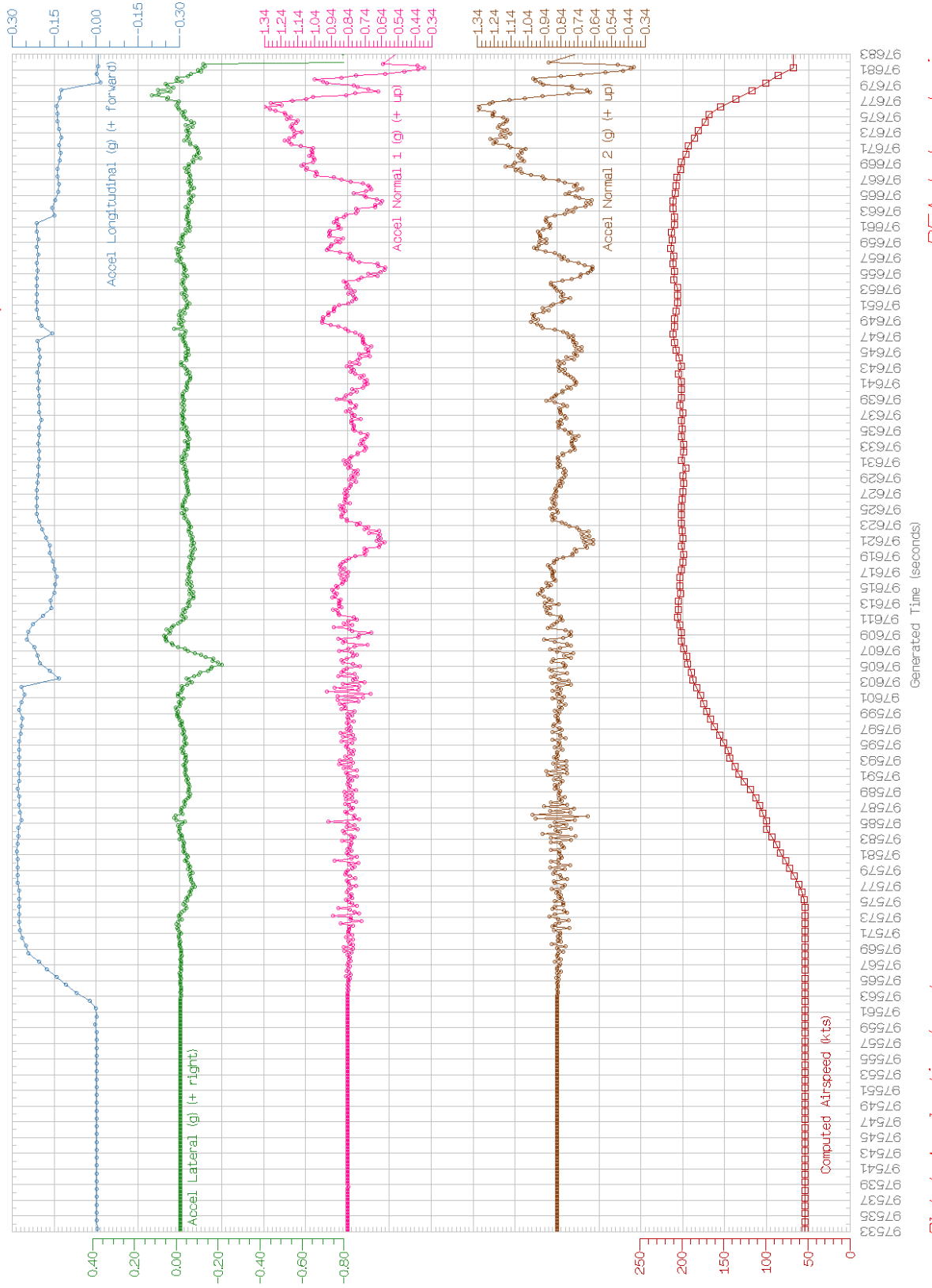
CVR UTC Time	FDR Time	Captain	First Officer	Flight Engineer	Cockpit Area Microphone	VHF	Observations
44 m 22 s 19	97673,2		⇒ Negative we're trying for Le Bourget			runway zero nine in the opposite direction Ditto	
44 m 24 s 18	97675,2				Noise of selector		
44 m 25 s 02	97675,5				Noise of selector		
44 m 25 s 11	97675,9				Noise of selector		
44 m 26 s 04	97676,6				Noise of selector		
44 m 26 s 10	97676,9		(no)			(FSL) De Gaulle tower from fire service leader can you give me the situation of the Concorde now	
44 m 26 s 16	97677,1				Gong		
44 m 27 s 00	97677,5				Gong and noise of selector		
44 m 27 s 13	97678				Noise of selector and various noises		Similar to movement of objects
44 m 29 s 00	97679,5	(*)					Similar to effort
44 m 30 s 00	97680,5	(*)					Similar to effort
44 m 30 s 18	97681,2	(*)					Similar to effort
14 h 44 m 31 s 16	97682,1	END OF	RECORDING				

## **Plan showing distribution of parts on the runway**

# F-BTSC

Concorde, Air France

July 25, 2000, Gonesse



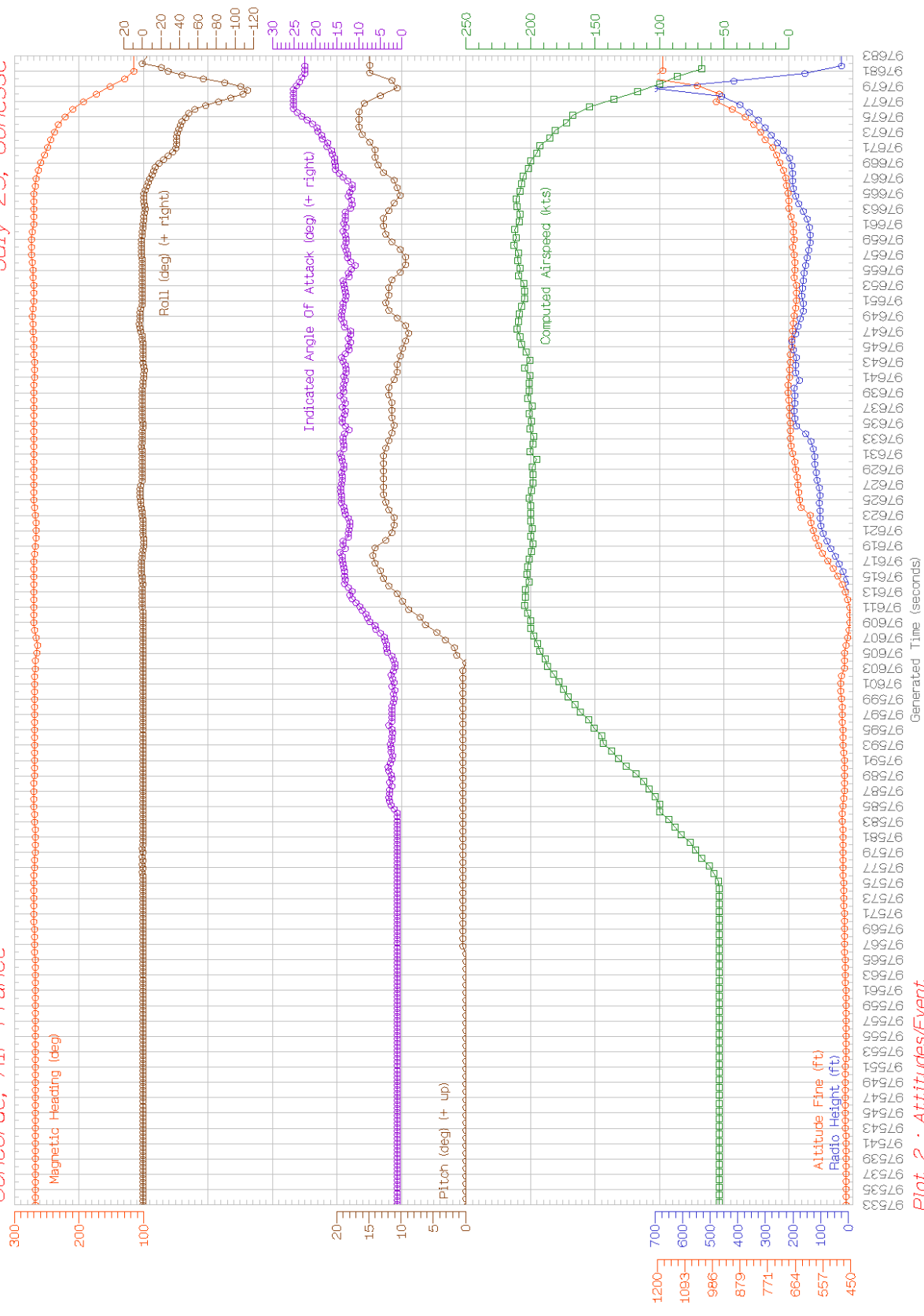
Plot 1: Accelerations/event  
released : August 3, 2000

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# F-BTSC

Concorde, Air France

July 25, Gonesse



Plot 2 : Attitudes/Event

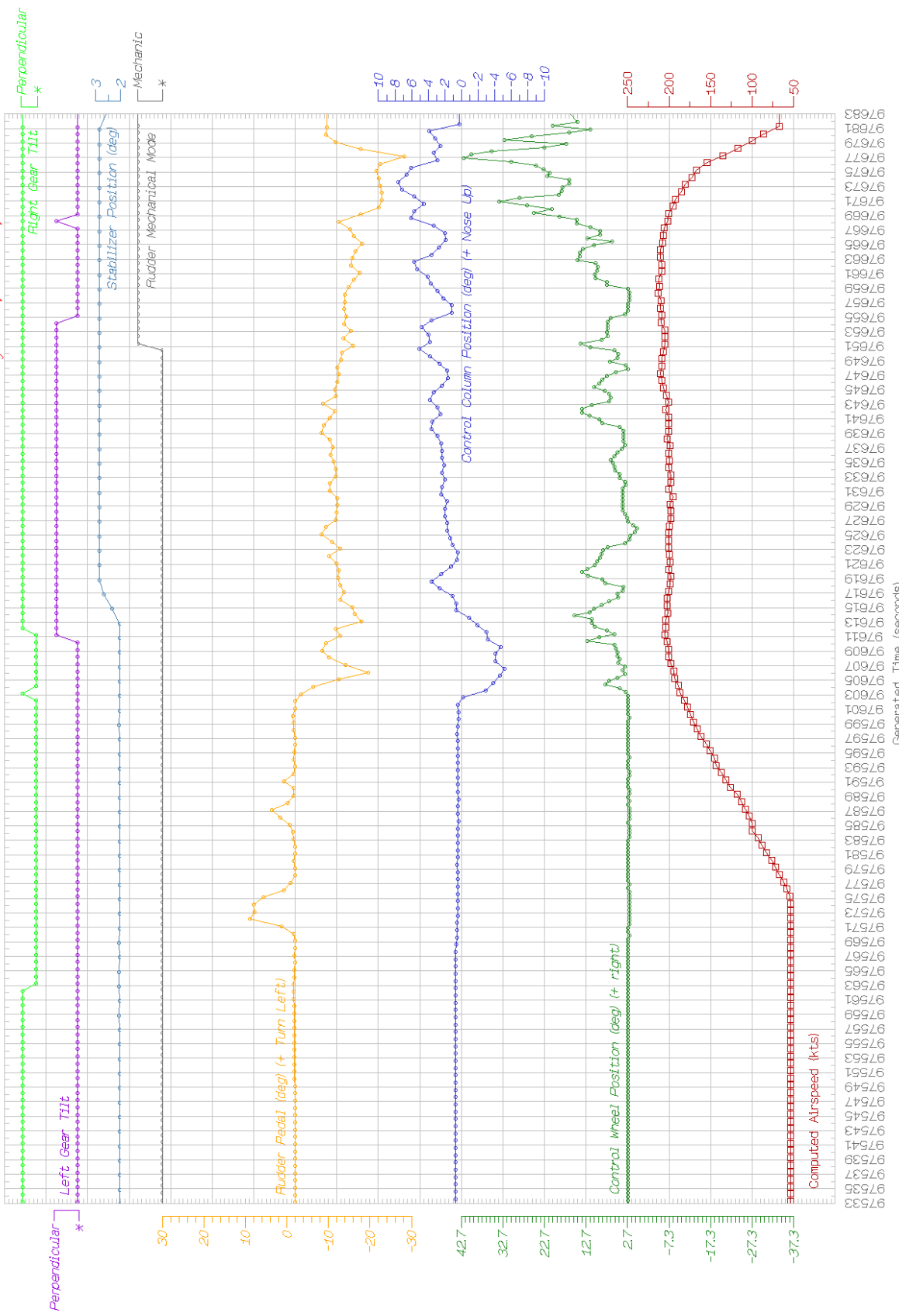
released : August 3, 2000

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Concorde, Air France

July 25, 2000, Gonesse



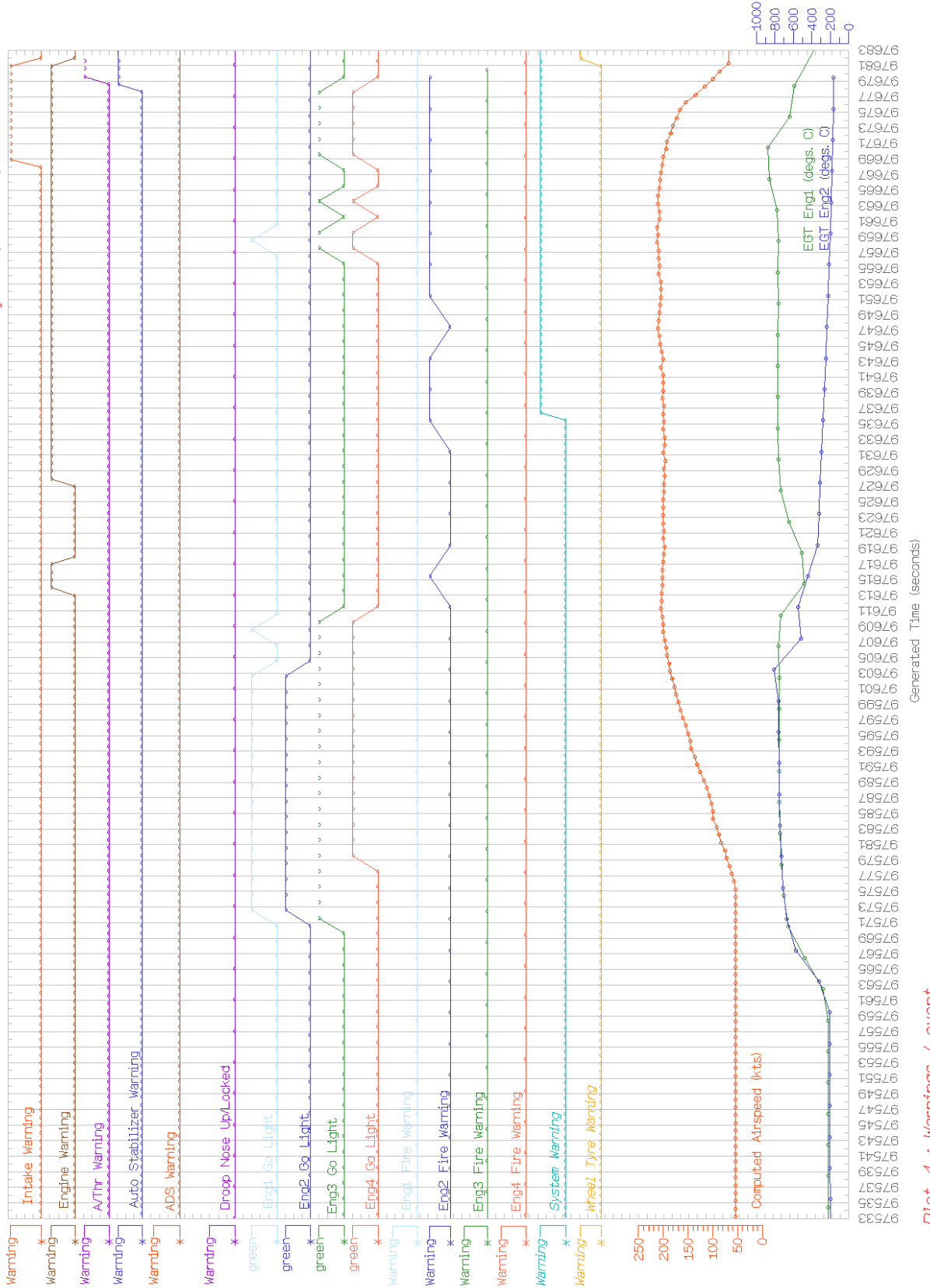
Plot 3 : Flight Controls/event  
released : August 3, 2000

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# F-BTSC

July 25, 2000, Gonesse

Concorde, Air France

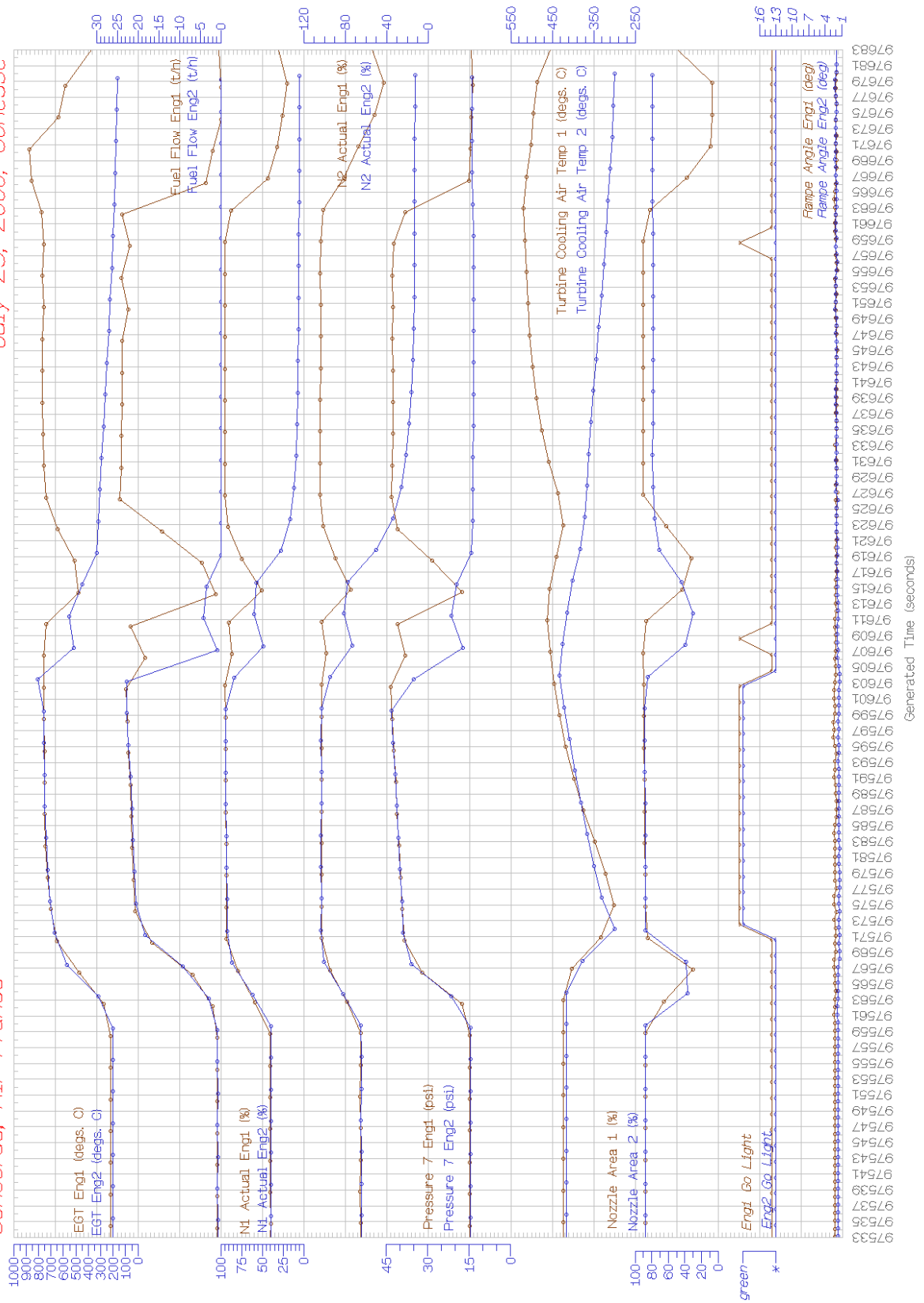


Plot 4 : Warnings / event released August 3, 2000

# F-BTSC

Concorde, Air France

July 25, 2000, Gonesse



Plot 5 : Engines 1&2 / Event  
Released August 3, 2000

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# F-BTSC

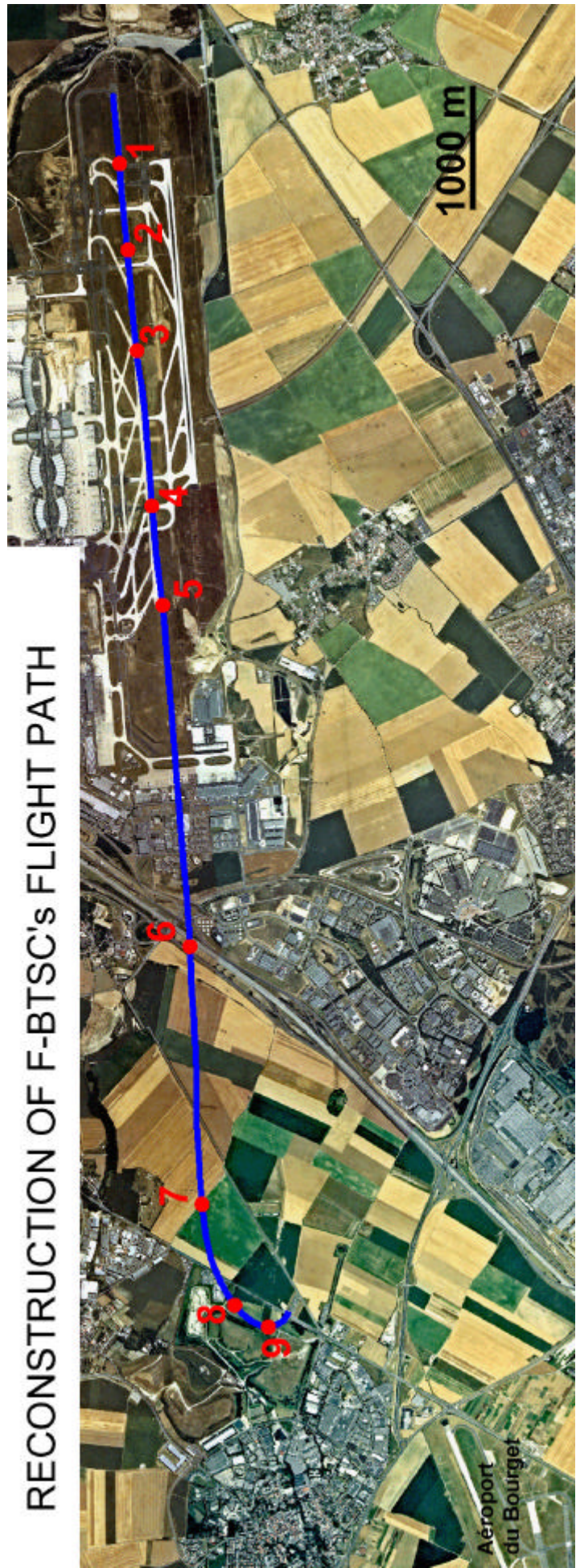
July 25, 2000, Gonesse

Concorde, Air France



Plot 6 : Engines 3&4 / Event  
released August 3, 2000

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RECONSTRUCTION OF F-BTSC's FLIGHT PATH

Image BEA/IGN/FLEXIMAGE